Center Independent Research & Development: GSFC IRAD

EUV Doppler Imaging for CubeSat Platforms

Completed Technology Project (2011 - 2012)

Project Introduction

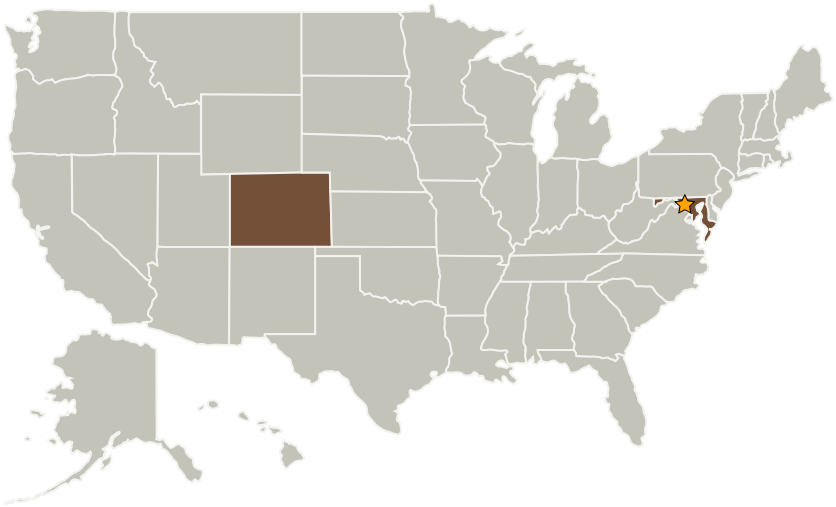
Provide EUV imaging capability within the resources available for a 3U CubeSat. Advance/extend Extreme Ultraviolet (EUV) imaging capability to small low-cost orbital platforms, providing new capability in the LCAS path for demonstrating EUV instrument concepts that lead to major missions. Develop hardware for first flight demonstration of back-illuminated CMOS active pixel sensors. Demonstrate new Doppler Imaging technique for the EUV.

Mature the design and fabricate the Flare Initiation Doppler Imager (FIDI) instrument to demonstrate low-spacecraft-resource EUV technology (most notably, back-illuminated CMOS) from a 3U CubeSat platform, using a recently-developed EUV Doppler imaging technique (see upper right panel).

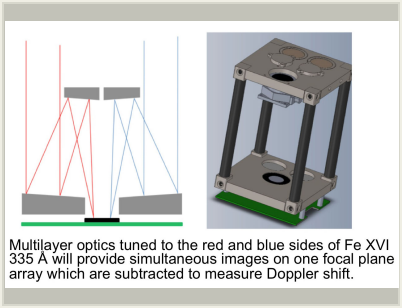
Anticipated Benefits

FIDI will provide doppler shift measurements of a line observed by SDO/AIA

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Goddard Space Flight Center(GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland



Project Image EUV Doppler Imaging for CubeSat Platforms

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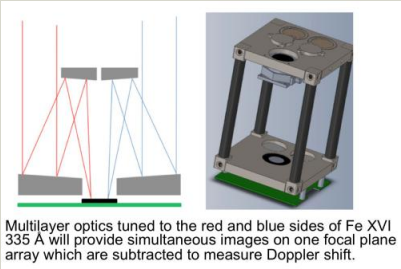
Co-Funding Partners	Type	Location
Rutherford Appleton Laboratory(RAL)	Academia	Oxfordshire, Outside the United States, United Kingdom

Primary U.S. Work Locations	
Colorado	Maryland

Images



5300.jpg
Project Image EUV Doppler Imaging for CubeSat Platforms
(https://techport.nasa.gov/image/1125)

Project Website:

http://sciences.gsfc.nasa.gov/sed/

Organizational Responsibility

Responsible Mission Directorate:

Mission Support Directorate (MSD)

Lead Center / Facility:

Goddard Space Flight Center (GSFC)

Responsible Program:

Center Independent Research & Development: GSFC IRAD

Project Management

Program Manager:

Peter M Hughes

Project Manager:

Peter M Hughes

Principal Investigator:

Adrian N Daw

Co-Investigators:

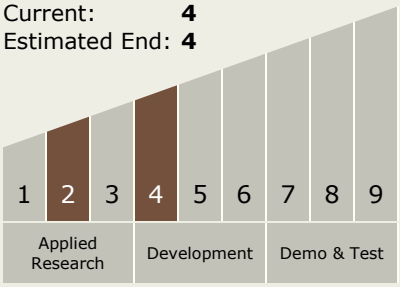
Israel Davila
George M Hilton
James P Haas
Craig L Stevens

EUV Doppler Imaging for CubeSat Platforms

Completed Technology Project (2011 - 2012)

Technology Maturity (TRL)

Start: **2**
Current: **4**
Estimated End: **4**



Technology Areas

Primary:

- TX08 Sensors and Instruments
  - TX08.2 Observatories